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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,775	09/29/2003	Isabelle Bongrand	Q77526	7564
23373	7590	05/27/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			PENG, CHARLIE YU	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,775	BONGRAND ET AL. 	
	Examiner	Art Unit	
	Charlie Peng	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 1,3,4 and 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

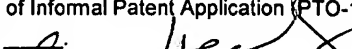
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/671,775.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/23/03</u> . | 6) <input type="checkbox"/> Other:  |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 1 recites the limitation "the inner rows" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the arrangement of at least two of these longitudinal holes" in line 5. There is insufficient antecedent basis for this limitation in the claim, since "an arrangement of longitudinal holes and a guiding core" was previously defined in line 1.

Claim 5 recites the limitation "value of at least $3,4 \cdot 10^{-3}$ ". It is unclear to the examiner what the value entails here. It is suggested a scientific expression such as " 4×10^{-3} " is used.

Claim Objections

Claim 1 is objected to because of the following informalities: "two fold" in line 2 should be *--two folds--* or *--two-fold--*; "parallelogram shape" in line 5 should be *--parallelogram-shaped--*.

Claims 3 and 4 are objected to because of the following informalities: "material" in line 2 should be *--materials--* or *--a material--*.

Claim 4 is objected to because of the following informalities: "leading-edges" in line 2 should be *--leading edges--*.

Claim 6 is objected to because of the following informalities: "rare earth material" in line 2 should be --*rare earth materials*-- or --*a rare earth material*--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

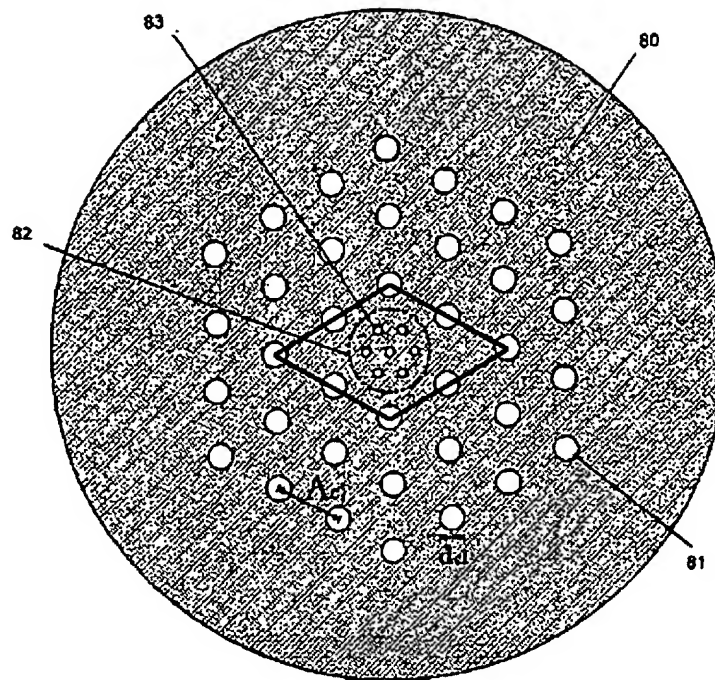
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 6 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. PGPub 2002/0061176 to Libori et al. Libori teaches, particularly in an embodiment as illustrated in the drawing below (or **Fig. 8** in Libori), a fiber with an arrangement of longitudinal features **81** (holes "made of air") and a core region **82**. Libori further teaches that a minimum size of the parallelogram corresponds to seven core features/holes. ([0164] – [0165]) Libori still further teaches the inner rows (three holes per row) of the longitudinal holes **81** surrounding the core region **82** forms a parallelogram, which dictates that the fiber has a two-fold symmetry.

With reference to claim 3, Libori still further teaches, in an embodiment as illustrated in Fig. 11, all the core features are filled to form a "fibre with a solid core".

([0165])



With reference to claim 6, Libori still further teaches that a dopant in the core region can be a rare earth dopant. ([0113])

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Libori et al. in view of U.S. Patent 6,888,992 to Russell et al. Libori teaches a photonic fiber with longitudinal holes and a core region that follows a parallelogram shape, except for at least one longitudinal hole at leading edges being missing or filled with a

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material other than air. Russell teaches, in an alternative embodiment illustrated in **Fig. 8**, some of the holes **150** being filled with material other than air. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fill some of the longitudinal holes with other materials. The motivation would be to create sections of different dielectric constant.

With reference to claim 5, Libori and Russell teach the photonic fiber as claimed and that the birefringence is such that light with a wavelength of 1.5 μm propagating in the fibre has a beat length of less than 1 cm except for an actual birefringence value. **(Column 3, paragraph 2)** It would have been obvious to one having ordinary skill in the art at the time the invention was made to investigate and reach a desired birefringence value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2D 272, 205 USPQ 215 (CCPA 1980) The motivation would be that the beat length period depends upon birefringence value and the shorter the beat length, the more resilient is the fiber to polarization-scrambling effects.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. PGPub 2004/0151454 to Fajardo et al;

U.S. PGPub 2005/0084223 to Tanaka et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charlie Peng
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A handwritten signature in black ink, appearing to read "Brian Healy", with a stylized flourish at the end.

Brian Healy
Primary Examiner